



Math-in-CTE Model

The goal of the MATH-in-CTE professional development is to provide CTE teachers with a means of enhancing the mathematics already present in their occupational curriculum. The National Research Center for Career and Technical Education(NRCCTE) has developed a model that involves pedagogy and a process for professional development. The pedagogy--a real-world application of mathematics instruction arising out of an authentic context – was designed by the research team and educational consultants. This served to guide the teachers’ development and instruction of math-enhanced CTE lesson plans. It consists of a three-step process that guides students to make links between math concepts and the task or problem at hand: solving a real, relevant problem; practicing on several similar examples; and applying the concept to real-world problems.



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MATH-IN-CTE
RIGOR and
RELEVANCE:
A MODEL of
ENHANCED MATH
LEARNING in CAREER
and TECHNICAL
EDUCATION

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The Core Principles

Five core principles are needed for the successful implementation of the Math-in-CTE model. These principles are critical in the Math-in-CTE approach to improving the math skills of students.

- Develop and sustain a community of practice among the instructors.
- Begin with the CTE curriculum and not the math curriculum.
- Understand that math is an essential workplace skill.
- Maximize the math in the CTE curriculum.
- Recognize that CTE instructors are instructors of Math-in-CTE, and not math instructors.



The Math-in-CTE Model: A Process and a Pedagogy

Implementation of the Math-in-CTE model requires a critical mass of CTE instructors from a specific career area. Examples of such areas include: Manufacturing Technology, Family and Consumer Sciences, Business, and Agriculture. Each CTE teacher is partnered with a math teacher for extended professional development throughout the academic year. Math teacher partners are essential to the model because they serve as a resource to help career instructors with any math questions they may have and they provide valuable input for bridging the gap between academic and CTE worlds. The community of practice formed by these partnerships is vital to the success of the model.

Professional Development

- Mapping the curriculum
- Creating math-enhanced lessons
- Developing scope and sequence
- Teaching the lessons
- Revising the lessons

Iowa is continuing the Math-in-CTE initiative for the 2009-2010 year. Teams can now sign up to participate in the professional development using the attached form. Community College teams should return the completed form to the Contact listed on the Math-in-CTE Registration Form. Four days of Professional Development for Math-in-CTE instructor teams will be held in the summer at the dates and locations listed below. Four additional dates will be held during the school year and those dates will be scheduled soon.

Indian Hills CC/Great Prairie: Karen Swanson (August 10-13 in Ottumwa) 641-683-5277 kswanson@indianhills.edu
(Manufacturing, Information Technology)

Southwest CC/Green Valley: Donna McClain (August 3-6 in Creston) 712-303-0827 dmcclain@aea14.k12.ia.us
(Family and Consumer Sciences, Agriculture, Business)

IA Valley CC District/AEA 267: Lorna Kennedy (August 3-6 in Marshalltown) 641-328-4751
lkennedy@aea267.k12.ia.us
(Construction, Agriculture)